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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/632,484	08/01/2003	Rajkumar Jalan	M-15185 US	2999

7590 06/08/2007  
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EXAMINER
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LIN, WEN TAI

ART UNIT	PAPER NUMBER
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2154

MAIL DATE	DELIVERY MODE
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06/08/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/632,484

Applicant(s)

JALAN ET AL.

Examiner

Wen-Tai Lin

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-21 and 23-32 is/are rejected.
- 7) ☒ Claim(s) 6 and 22 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. Claims 1-32 are presented for examination.
2. The disclosure is objected to because it contains an embedded hyperlink and/or other form of browser-executable code. Applicant is required to delete the embedded hyperlink and/or other form of browser-executable code. See MPEP § 608.01.  
For example, hyperlinks are found in Specification page 1, line 31 and page 2, lines 1-2.  
Appropriate modification is required.
3. Claims 1-16 and 27-29 is/are objected to because the following terms lack antecedent basis:  
  
in claim 1: "the provider edge packet"; and  
in claims 11-12 and 27-29: "the virtual lan service".

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the

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applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-3, 12-19 and 28-32 are rejected under 35 U.S.C. 102(e) as being anticipated by Casey [U.S. PGPub 20030142674].

6. As to claim 1, Casey teaches the invention as claimed including: a method for providing, in a service provider's network, a multicast capability for a customer packet of a virtual private LAN service [e.g., paragraphs 20-22], comprising:

at a provider edge device associated with the virtual private LAN service [e.g., paragraph 21], encapsulating the customer packet of the virtual private LAN service in a service provider packet in accordance with a data communication protocol having a native multicast capability [e.g., Fig. 2; paragraph 24];

transmitting over the service provider's network the service provider packet using the native multicast capability of the data communication protocol from the provider edge device to a plurality of other provider edge devices associated with the virtual private LAN service [e.g., Abstract; paragraph 51]; and

at each of the other provider edge devices associated with the virtual private LAN service, upon receiving the provider edge packet, recovering the customer packet [Note that it is an inherent process to decapsulate a customer packet arriving at its destination provider edge].

7. As to claim 2, Casey further teaches that the data communication protocol having the native multicast capability comprises the Internet Protocol [e.g., paragraphs 84-85].

8. As to claim 3, Casey Casey teaches that the method further comprises associating a unique identifier under the communication protocol with the virtual private LAN service [e.g., paragraph 24].

9. As to claim 12, Casey teaches that the method further comprises providing the virtual LAN service in the service provider's network using an Internet Protocol/Multi-protocol label switching service [e.g., paragraph 20].

10. As to claim 13, Casey further teaches that the service provider provides the virtual private LAN service in the context of a Layer 2 virtual private network [e.g., paragraph 22].

11. As to claims 14 and 16, Casey teaches that the method further comprises receiving the customer packet at the provider edge device originating from a customer edge device of a virtual LAN, and at each of the other provider edge device, forwarding the customer packet to a customer edge device of a virtual LAN [e.g., Figs. 1-3].

12. As to claim 15, Casey teaches that the method further comprises accepting into the service provider's network a packet that resembles the structure of the service provider packet for the virtual private LAN service only from the provider edge devices associated with the virtual private LAN service [note that by encapsulating the customer packet into the provider's packet, the former becomes part of the payload of the provider's packet, which makes the resulting packet resemble the structure of the original provider's packet].

13. As to claims 17-19 and 28-32, since the features of these claims can also be found in claims 1-3 and 12-16, they are rejected for the same reasons set forth in the rejection of claims 1-3 and 12-16 above.

***Claim Rejections - 35 USC § 103***

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. Claims 4-5, 7-8, 11, 20-21, 23-24 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Casey [U.S. PGPub 20030142674], as applied to claims 1-3, 12-19 and 28-32 above, further in view of Lee [U.S. PGPub 20040165600].

16. As to claims 4-5, Casey teaches that the data communication protocol having multicast capability based on MAC addresses. Casey does not specifically teach that the native multicast capability comprises the Internet Protocol, and the unique identifier comprises an Internet Protocol multicast group address.

However, in the same field of endeavor, Lee teaches data communication protocol having multicast capability based on IP addresses [e.g., paragraphs 84-85], wherein each IP address is mapped to a MAC address via a table [paragraphs 89-92].

It would have been obvious to one of ordinary skill in the art at the time the invention was made that Casey's multicast may also be based on IP addresses and use the IP multicast group address as the unique identifier for associating with the VPLAN because, as taught by Lee, the IP and MAC addresses are one-to-one correspondent, wherein it is also obvious that the assigned IP multicast group address has to be selected from a range set aside by the service provider so as to avoid overlapping use of the values within the same service provider's domain.

17. As to claim 7, Lee further teaches that the further distributing the Internet Protocol multicast group address using a name server [e.g., paragraph 45].

18. As to claim 8, Lee further teaches that the transmitting is performed in accordance with a routing protocol for the multicast capability of the data communication protocol [e.g., paragraph 118].

19. As to claim 11, Casey further teaches that the routing protocol creates a distribution tree for distributing the service provider packet for the virtual LAN service [e.g., paragraph 21; i.e., organizing network components in a hierarchy is equivalent to a tree structure].

20. As to claims 20-21, 23-24 and 27, since the features of these claims can also be found in claims 1, 3-5, 7-8, 11, 17 and 19, they are rejected for the same reasons set forth in the rejection of claims 1, 3-5, 7-8, 11, 17 and 19 above.

21. Claims 9-10 and 25-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Casey [U.S. PGPub 20030142674], as applied to claims 1-5, 7-8, 11-21, 23-24 and 27-32 above and Lee [U.S. PGPub 20040165600], as applied to claims 4-5, 7-8, 11, 20-21, 23-24 and 27 above, further in view of Navas [U.S. PGPub 20020026268].

22. As to claims 9-10, Casey and Lee do not specifically teach that the routing protocol comprises a source-based routing protocol or a core-based routing protocol.

However, Navas teaches both source-based routing protocol and core-based routing protocols are efficient routing protocols for dense-mode and sparse-mode multicast protocols, respectively [e.g., paragraphs 6-9].



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It would have been obvious to one of ordinary skill in the art at the time the invention was made to use source-based and core-based routing protocols in Casey's and Lee's system because in general it is a typical objective to choose an efficient routing protocols to improve system performance.

23. As to claims 25-26, since the features of these claims can also be found in claims 1, 8-10, 17 and 24, they are rejected for the same reasons set forth in the rejection of claims 1, 8-10, 17 and 24 above.

24. Claims 6 and 22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

25. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Kitada et al. [U.S. PGPub 20030037163];

Garrett et al. [U.S. PGPub 20020019875];

Varghese et al. [U.S. Pat. No. 6560236]; and

Liu et al. [U.S. PGPub 20040184408].

26. A shortened statutory period for response to this action is set to expire 3 (three) months and 0 days from the mail date of this letter. Failure to respond within the period

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for response will result in ABANDONMENT of the application (see 35 U.S.C. 133, M.P.E.P. 710.02, 710.02(b)).

### ***Conclusion***

**Examiner note:** Examiner has cited particular columns and line numbers in the references as applied to the claims above for the convenience of the applicant.

Although the specified citations are representative of the teachings of the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the contest of the passage as taught by the prior art or disclosed by the Examiner.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wen-Tai Lin whose telephone number is (571)272-3969. The examiner can normally be reached on Monday-Friday(8:00-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan Flynn can be reached on (571) 272-1915. The fax phone numbers for the organization where this application or proceeding is assigned are as follows:

(571) 273-8300 for official communications; and

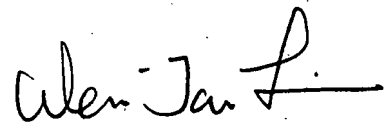
(571) 273-3969 for status inquiries draft communication.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Wen-Tai Lin

June 4, 2007

  
6/4/07